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ABSTRACT

A survey was conducted to determine the amount and types of computer training supplied to prospective and practicing teachers in schools of education. Questionnaires were distributed to a stratified national probability sample of 428 institutions of higher education representing an estimated total of 1,220 colleges and universities providing general elementary and secondary teacher education. Results (based on a response rate of 96%) indicate that: (1) three-fifths of the schools offered computer courses (one-half of the undergraduate programs and two-thirds of the graduate programs); (2) about 20,000 microcomputers were available for use by education students, with an average of 26 for each school of education that offered a computer course; (3) the most widely offered undergraduate computer course (i.e., a course devoting 80% or more of class time to computers) was the introductory course, available in 62% of all schools with undergraduate computer education courses; (4) 42% of schools with courses in computers offered a course in "instructional uses of computers"; (6) proportionately fewer graduate programs had computer course requirements than undergraduate programs; and (7) the most frequently identified problems encountered in developing a computer training program were inadequate software (45%), a shortage of computer-trained faculty (42%), and inadequate hardware (34%). Almost all schools of education reported some plans to initiate or increase computer education programs in the next two years; areas specified for high-priority development in the undergraduate curriculum included adding computer components within existing courses (62%), adding computer courses (61%), and increasing requirements for computer courses (50%). Eight data tables and a copy of the questionnaire are provided. (JB)

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ED272180

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January 1986

TEACHER PREPARATION IN THE USE OF COMPUTERS

About 9 out of 10 U.S. college or university schools of education gave prospective teachers some access to training in computers in 1983-84. This training came through education courses concentrating on the use of computers or through methods or curriculum courses having a computer component. These findings and others were obtained in a recent national survey of college and university schools, colleges, and departments of education (hereafter called schools of education) conducted by the Center for Statistics (formerly National Center for Education Statistics) through its Fast Response Survey System.

Access to Computer Courses and Computers

Of the estimated 1,220 schools of education in the Nation, virtually all (1,212) had undergraduate programs and 60 percent (736) had graduate programs in 1983-84.[1] The computer instruction offered in both programs could generally be categorized into two basic groups. One contains courses that devoted 80 percent or more of the class period to computers as objects of learning or to their use as learning or teaching tools. These will be referred to hereafter simply as computer courses.[2] The second group covers the methods or curriculum courses devoting only a portion of the class time to computers. These courses focused mainly on techniques for teaching subject matter.[3]

Computer courses were fairly common in schools of education. Three-fifths of the schools offered such courses, with about one-half of the undergraduate programs and two-thirds of the graduate programs offering them (table 1).[4]

Schools of education offered fewer credits in undergraduate computer courses than in graduate courses. On the average, approximately 5 undergraduate course credits were offered, with about half of the schools offering 3 or fewer (not shown in tables).[5] The average number of graduate credits offered was 10, with half of the schools offering 6 or fewer.

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About 20,000 microcomputers were available for use by education students, an average of 26 for each school of education that offered a computer course (not shown in tables). Overall, about half of the microcomputers were accessible within the school of education, while the other half were located outside the school of education but available to education students.

Methods courses with computer components were also widespread but constituted only a small portion of the computer curriculum available to the undergraduate education student. Seventy-two percent of the schools of education with elementary education programs and 63 percent of those with secondary education programs offered undergraduate methods courses containing a computer education component.

Undergraduate schools offering these methods courses as part of the elementary education curriculum provided 2.5 such courses on the average, with the computer portion comprising approximately 15 percent of class time. Secondary education programs were quite similar, averaging 2 courses, with an average of 15 percent of class time devoted to computers. If one assumes a 3-credit course as being typical, then 15 percent amounts to roughly 0.45 credit. Thus, a student taking the average courseload in either the elementary or secondary education curricula would earn the rough equivalent of 1 credit of computer training (2.5 x 0.45 = 1.12; 2 x 0.45 = 0.90).

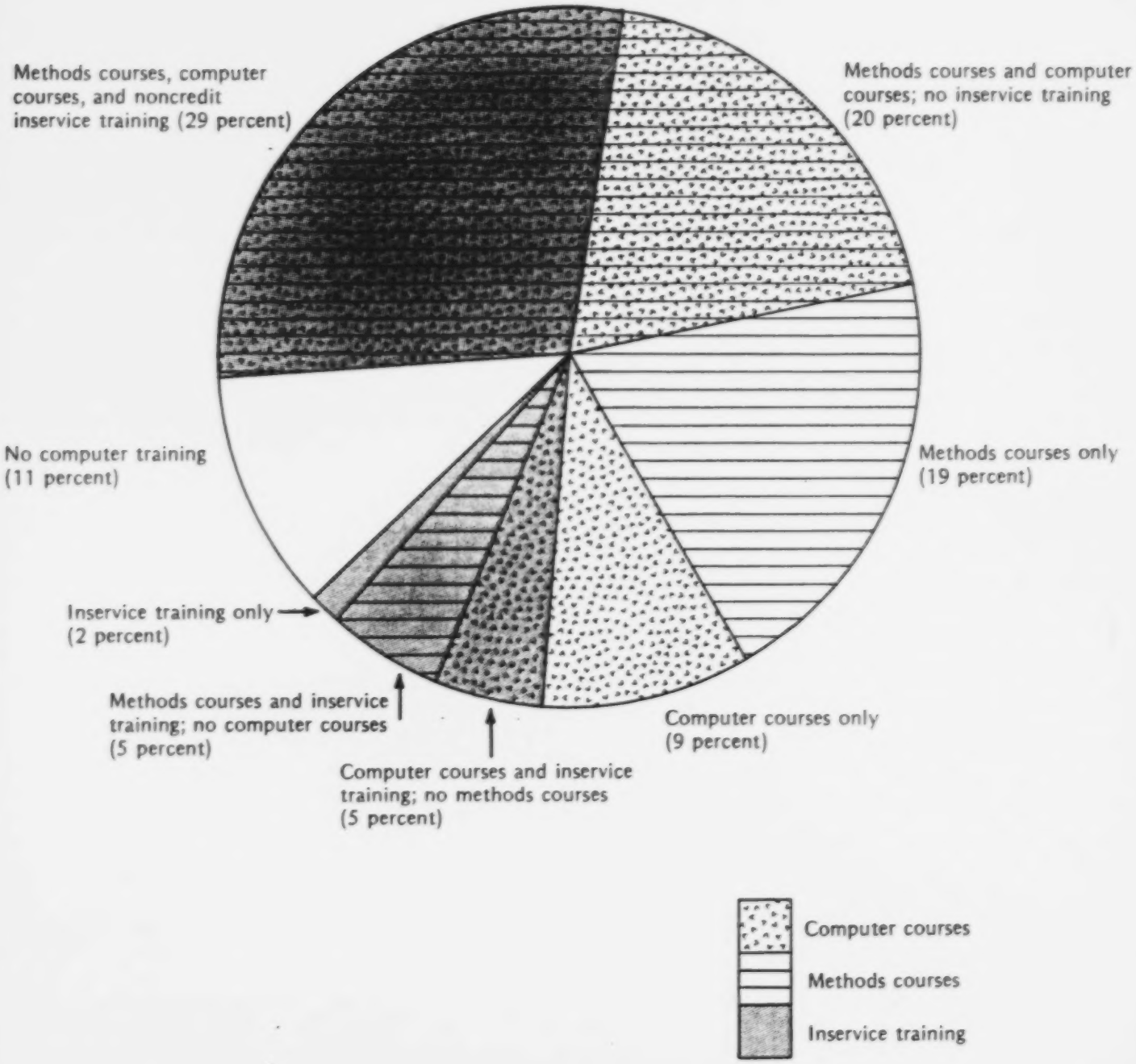
To provide a complete picture, the survey also asked about inservice instruction in computers primarily aimed at the practicing teacher. Through workshops, conferences, and seminars, 42 percent of the schools of education provided noncredit inservice instruction in computer education. Schools with this training served an average of 166 persons in 1983-84, averaging 15 hours of instruction per person. The length of inservice instruction and the number of persons receiving it varied greatly among schools. About 20 percent of the schools provided 4 hours of instruction or less, while 10 percent gave 40 hours or more (not shown in tables). The number of recipients of inservice training ranged from 15 or fewer per institution to 350 or more (about 10 percent of the schools of education in each case).

While approximately 90 percent of schools of education offered computer courses, methods courses with computer components, or noncredit inservice instruction, only 29 percent offered all three types of training. The figure on page 3 shows the different combinations of the three major types of computer education training offered by schools of education.

Characteristics of the Undergraduate Curriculum

The most widely offered undergraduate computer course (i.e., a course devoting 80 percent or more of class time to computers) was the introductory course, available in 62 percent of all schools of education with undergraduate computer education courses (table 2). In addition, 42 percent of schools with courses in computers offered a course in the "instructional uses of computers" (e.g., computer-assisted instruction); 26 percent offered programming; 13 percent offered an overview of available software or hardware; and

Percent of schools of education offering various combinations of computer training: 50 States and D.C., summer 1984


Methods courses, computer courses, and noncredit inservice training (29 percent)
Methods courses and computer courses; no inservice training (20 percent)
No computer training (11 percent)
Methods courses only (19 percent)
Inservice training only (2 percent)
Methods courses and inservice training; no computer courses (5 percent)
Computer courses only (9 percent)
Computer courses and inservice training; no methods courses (5 percent)
Computer courses
Methods courses
Inservice training

13 percent offered "computers as tools for teachers or students" (e.g., computer-managed instruction). Of those schools offering each type of course, the average number of credits ranged from 2.8 to 3.7, or about one 3-credit course.

Schools of education that offered undergraduate computer courses were also asked what percent of 1983-84 seniors had taken any of the courses noted above. On the average, an estimated 50 percent of the seniors in elementary education in these schools had been exposed to these courses. An average of 43 percent of the secondary education seniors (excluding seniors in the fields of math, science, or computer science) had also taken them (not shown in tables).[6]

Schools were asked if they required graduating seniors in specific education fields to take computer courses. About half of the schools with undergraduate computer courses had such requirements in at least one education field (table 3). By field, the percent of schools requiring computer courses ranged from 26 percent in secondary fields other than math, science, or computers to 42 percent in secondary math. The average number of required credits ranged from 2.6 to 4.3 for elementary and for all secondary fields except computer fields. Only 9 percent of schools with undergraduate computer courses had secondary education students majoring in computers; these students were required to take an average of approximately 21 computer course credits (not shown in tables).

Graduate Courses

With the exception of "introduction to computers," each type of computer course was more likely to be offered in graduate programs than undergraduate programs. The number of available credits was also somewhat greater in graduate programs. The most widely offered graduate-level course in the survey was "the instructional uses of computers," which was given in 62 percent of the graduate programs with computer courses (table 2). Following in availability were: programming (52 percent), introduction to computers (47 percent), computers as tools for teachers or students (31 percent), and an overview of software or hardware (28 percent). The average number of credits offered per course ranged from 3.2 (overview of software or hardware) to 5.3 (programming).

Proportionately fewer graduate programs had computer course requirements than undergraduate programs (table 3). Thirty percent of the schools of education required at least some graduate students to take computer courses. The average number of credits required ranged from 3.2 to 4.6, excluding computer fields, which averaged 18.4.

Problems in Developing Computer Training Programs

Schools of education encountered major problems developing a computer training program (table 4). They most frequently identified inadequate software (45 percent) and a shortage of computer-trained faculty (42 percent) as

major impediments. In addition, 34 percent of the departments rated inadequate hardware as a major problem.

Smaller proportions of schools of education reported that the difficulty of integrating courses into the curriculum (26 percent) and insufficient educational research (16 percent) were major factors discouraging the development of their computer training programs. Trailing the list of major problems were interdepartmental conflicts (7 percent) and insufficient interest of students (3 percent). Whether or not a school currently had one or more computer courses, these proportions remained about the same (not shown in tables).

Plans for Developing Computer Training Programs

Almost all schools of education reported some plans to initiate or increase computer education programs in the next 2 years. Half or more specified four areas for high-priority development (table 5). Three of these concerned undergraduate training: adding computer components within existing courses (62 percent of schools), adding computer courses (61 percent), and beginning or increasing undergraduate requirements for computer courses (50 percent). Increasing the number of graduate computer courses, the fourth area, was rated as a high priority by 53 percent of the schools with graduate training programs.

The remaining three areas listed on the survey received high priority ratings from fewer institutions: increasing the number and variety of microcomputers available (40 percent of all schools), developing noncredit inservice training (25 percent), and initiating or increasing graduate-level requirements (33 percent of schools with graduate training programs). In general, schools of education were more likely to rate a plan as a high priority if they were planning to increase it rather than initiate it (table 6).

The findings presented above provide a snapshot picture of the computer education training available to undergraduate and graduate students in elementary and secondary education in the 1983-84 academic year. The plans reported by the responding schools indicate that computer education training should be even more widely available in the near future. The percentage of schools with undergraduate computer courses could grow from the current 50 percent to 78 percent if all the schools that gave high priority to starting such courses implement their plans. The proportion could jump to 90 percent if those with medium priority plans also follow through.

Survey Background

In May 1984, the survey form (a copy of which is attached) was mailed to a stratified national probability sample of 428 institutions of higher education representing the estimated total of 1,220 colleges and universities providing general elementary and secondary teacher education. Institutions providing training in specialized fields only (e.g., agricultural education) were excluded from the sample.

The survey focused on computer instruction designed to meet the needs of the prospective and practicing teacher. The school of education could itself offer such instruction, at times perhaps in conjunction with another department (e.g., the mathematics department). Or the instruction could be offered by another department but required by the school for all education students.

Data collection was completed in July 1984 with a response rate of 96 percent. The data were adjusted for questionnaire nonresponse and weighted to national totals. All statements of comparison made in the text are significant at the 90 percent confidence level or better. Standard errors for selected items are presented in table 8 as a general guide to the precision of numbers in the tables.

The survey was performed under contract with Westat, Inc., a research firm in Rockville, Maryland, using the Fast Response Survey System (FRSS). FRSS was established by the Center for Statistics to collect small quantities of data, needed for education planning and policy formulation, quickly and with minimum burden on respondents.

The following people contributed to this study: Elizabeth Farris and Judy Thorne-McNeil (Westat); Jeanette Goor (consultant); and Edward Esty and Arthur Melmed (Office for Educational Research and Improvement).

For More Information

For more information about this survey or the Fast Response Survey System, contact Douglas Wright, Office for Educational Research and Improvement, Center for Statistics, Washington, D.C. 20208, telephone (202) 254-7230. For single copies of this bulletin, contact the Information Office at the same address or telephone (202) 254-6057.

Notes

[1]See table 7 for additional characteristics of schools of education.

[2]These courses were identified in the questionnaire (attached) as computers-in-education courses.

[3]In addition, a third group of courses was potentially available to the prospective teacher which the survey does not address. It consists of courses that devoted less than 80 percent of class time to computers and were not curriculum or methods courses. This group was considered to be rather small at the time of the study.

[4]If courses could be taken for either undergraduate or graduate credit, schools recorded their responses under one category only. A total of 765 schools with undergraduate programs and 596 schools with graduate programs offered some computer courses. From other items in the survey, it is apparent that undergraduates took courses designated as graduate and vice versa, but the magnitude of overlap was not obtained in the survey. For clarity of discussion, analyses are based on schools reporting undergraduate (601) or graduate (473) courses.

[5]Throughout this report, the term "average" means the estimated arithmetic mean. Quarter credits have been converted to semester credits.

[6]These percents are averages of percents reported by schools, not averages based on student reports.

Table 1.--Computer training in schools of education: 50 States and D.C., summer 1984

Type of computer training	Schools of education[1]			Characteristics of offerings
	Total	Schools with at least one computer course		
		Number	Percent	
Computer courses:[2,3]				
Undergraduate	1,212	601	50	Average: 4.9 credits[4] Median: 3.0 credits Sample range: 1-53 credits
Graduate	736	473	64	Average: 10.0 credits Median: 6.0 credits Sample range: 1-72 credits
Components in undergraduate curriculum/methods courses:				
Elementary education	1,165	836	72	Averages: 2.5 courses with components 15 percent class time on computers
Secondary education	1,165	730	63	Averages: 2.0 courses with components 15 percent class time on computers
Noncredit inservice training	1,220	510	42	Averages: 166 recipients 15 hours per recipient

[1]The total number of schools of education with general elementary or secondary training at the graduate or undergraduate level is 1,220. Most of these schools offer both elementary and secondary programs.

[2]Computer courses were identified in the questionnaire as computers-in-education courses. These were defined as courses (either graduate or undergraduate) offered solely by the school/department of education, jointly with another department (e.g., math department), or by another department but required by the department of education of all education students. These courses must also provide instruction during at least 80 percent of class time on computers as objects of learning or in their use as learning or teaching tools.

[3]If a course could be taken for either undergraduate or graduate credit, schools were directed to record the course under one category only. Therefore, the availability of courses to undergraduates and graduates may be somewhat greater than these figures indicate.

[4]Quarter credits have been converted to semester credits.

Table 2.--Percent of schools of education offering computer courses and average number of credits offered, by primary content and level of courses: 50 States and D.C., summer 1984

Primary content of courses[1]	Undergraduate		Graduate	
	Percent of schools offering courses[2]	Average number of credits offered[3]	Percent of schools offering courses[4]	Average number of credits offered[3]
Introduction to computers/ general overview	62	2.8	47	3.6
Instructional uses of computers, e.g., computer-aided instruction	42	3.2	62	4.6
Programming	26	3.7	52	5.3
Software or hardware	13	2.8	28	3.2
Computers as tools, e.g., computer-managed instruction	13	3.1	31	3.5

[1]Computer courses were identified in the questionnaire as computers-in-education courses. These were defined as courses (either graduate or undergraduate) offered solely by the school/department of education, jointly with another department (e.g., math department), or by another department but required by the department of education of all education students. These courses must also provide instruction during at least 80 percent of class time on computers as objects of learning or in their use as learning or teaching tools.

[2]Based on 601 schools offering at least one undergraduate computer course.

[3]Average credits are based only on those schools offering courses.

[4]Based on 473 schools offering at least one graduate computer course.

Table 3.--Percent of schools of education requiring computer courses and average number of credits required, by type of program and level: 50 States and D.C., summer 1984

Program requirement	Undergraduate		Graduate	
	Percent of schools requiring courses[1]	Average number of credits required[2]	Percent of schools requiring courses[3]	Average number of credits required[2]
For at least one field in elementary or secondary education.	54	-	30	-
For elementary education . . .	33	2.6	8	3.4
For at least one field in secondary education.	47	-	29	-
Math	42	4.3	13	4.6
Science.	32	3.7	11	4.4
Other secondary.	26	2.7	7	3.2

- Not applicable.

[1]Based on 601 schools offering at least one undergraduate computer course. Some schools did not provide training in specific fields, e.g., elementary education. The number of schools responding for different fields ranged from 558 to 581.

[2]Average credits are based only on those schools requiring courses.

[3]Based on 473 schools offering at least one graduate computer course. The number of schools responding for different fields ranged from 393 to 434.

Table 4.--Percent of schools of education rating the importance of various problems in initiating or expanding a computer training program: 50 States and D.C., summer 1984

Problem	Degree of importance of problem		
	Major	Moderate	Minor or none
Inadequate software	45	29	26
Shortage of computer-trained faculty	42	31	27
Inadequate hardware	34	29	37
Integration into the curriculum	26	41	33
Insufficient educational research	16	36	47
Interdepartmental conflicts	7	15	77
Insufficient student interest	3	9	87

NOTE.--Percents may not add to 100 because of rounding.

Table 5.--Percent of schools of education rating the priority of various plans for initiating or increasing a computer training program in the next 2 years: 50 States and D.C., summer 1984

Plan to initiate/increase*	Priority		
	High	Medium	Low or none
Within-course components	62	30	8
Undergraduate course offerings	61	24	15
Graduate course offerings	53	34	13
Undergraduate requirements	50	25	25
Number or variety of microcomputers	40	39	21
Graduate requirements	33	37	29
Noncredit inservice training	25	29	46

*Percents for undergraduate course offerings and requirements are based on 1,212 schools with undergraduate programs; percents for graduate course offerings and requirements are based on 736 departments with graduate programs. Percents for the other plans are based on all 1,220 schools of education.

NOTE.--Percents may not add to 100 because of rounding.

Table 6.--Percent of schools of education rating the priority of initiating or increasing various characteristics of a computer training program, by whether they have or do not have the characteristic: 50 States and D.C., summer 1984

Characteristics of a computer training program	Schools that have the characteristic and plan to increase it*		Schools that don't have the characteristic and plan to initiate it	
	High priority	Medium priority	High priority	Medium priority
Within-course components	66	29	50	32
Undergraduate course offerings	67	23	56	25
Graduate course offerings	55	36	49	31
Undergraduate requirements	59	25	46	26
Graduate requirements	44	35	30	38
Noncredit inservice training	36	39	18	21

*Percents are based on a different number of schools for each characteristic of a computer training program. For example, the total number of schools with undergraduate programs that reported undergraduate computer course credits was 601, while the number of schools with graduate programs that reported graduate computer course credits was 473.

Table 7.--Schools of education, by program level, institutional type, control, and enrollment: 50 States and D.C., summer 1984

Institutional characteristics	Level of program[1]		
	Total	Undergraduate only	Undergraduate and graduate
		Number	
Total	1,220	484	728
Type of institution:[2]		Percentage distribution	
Doctoral	12	2	17
Comprehensive	31	1	52
General baccalaureate. .	49	84	26
Specialized	8	12	5
Control:			
Public	38	10	56
Private	62	90	44
Enrollment:			
Less than 1,000	30	48	18
1,000 - 2,499	29	45	19
2,500 - 9,999	29	6	43
10,000 or more	13	1	21

[1]Graduate-only schools, while included in the total, are not listed separately because the estimated number is so small (8).

[2]Doctoral institutions are characterized by a significant level of activity in and commitment to doctoral-level programs. Comprehensive institutions have a strong post-baccalaureate program, but do not engage in significant doctoral-level education. General baccalaureate institutions focus primarily on undergraduate baccalaureate education. The specialized category includes professional and specialized institutions. Specialized institutions that have schools, colleges, or departments of education are primarily business, divinity, and teacher colleges, with teacher colleges comprising less than half of these institutions. This classification is a classification of the institution; therefore, it is possible, for example, to have a doctoral institution with no education program at the graduate level.

NOTE.--Percents may not add to 100 because of rounding.

Table 8.--Standard errors of selected items

Item	Estimate	Standard error
Percent of all schools of education:		
Indicating that inadequate software is a major problem in initiating or expanding a computer training program	45.1	2.1
Indicating that interdepartmental conflicts are a major problem in initiating or expanding a computer training program	7.1	1.0
With high priority plans for initiating or increasing within-course components on computers in the next 2 years	62.0	2.1
With high priority plans for initiating or increasing undergraduate computer requirements in the next 2 years	49.7	2.4
With high priority plans for initiating or increasing noncredit inservice training in computer education in the next 2 years	25.4	1.7
Percent of schools of education with undergraduate programs:		
That offered undergraduate computer courses	49.6	2.1
With undergraduate computer courses that offered courses in introduction to computers	61.8	3.2
With undergraduate computer courses that offered courses in software or hardware	13.1	2.3
With undergraduate computer courses that had computer requirements for students in at least one elementary or secondary education field	54.2	3.7
That offered a computer education component in elementary curriculum or methods courses	71.9	2.0
Percent of schools of education with graduate programs:		
That offered graduate computer courses	64.2	2.5
With graduate computer courses that offered courses in instructional uses of computers	61.9	3.1
With graduate computer courses that had computer requirements for students in at least one secondary education field	28.7	2.6
Averages:		
Number of credits available in undergraduate computer courses	4.9	0.3
Number of credits available in graduate computer courses	10.0	0.6
Number of microcomputers available to education students per school with computer courses	26.1	0.9
Number of elementary education curriculum or methods courses with a computer education component	2.5	0.1
Percent of time devoted to computers in elementary education curriculum or methods courses	15.3	0.7
Number of hours of computer instruction offered in noncredit inservice training	15.2	1.0
Number of credits offered in undergraduate introduction-to-computers courses	2.8	0.1
Number of credits offered in graduate courses in instructional uses of computers	4.6	0.3

NOTE.--Statistics used in this report are subject to sampling variability. The estimated standard error of a statistic (a measure of the variation due to sampling) can be used to examine the precision obtained in a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.645 standard errors below to 1.645 standard errors above a particular statistic would include the average result of these samples in approximately 90 percent of the cases. For example, for the percent of schools that offered undergraduate computer courses, a 90 percent confidence interval is from 46.1 to 53.1 (49.6 ± 1.645 times 2.1). If this procedure were followed for every possible sample, about 90 percent of the intervals would include the average from all possible samples.

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FAST RESPONSE SURVEY SYSTEM

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App. Exp. 7/84

SURVEY OF TEACHER PREPARATION IN THE USE OF COMPUTERS IN EDUCATION

This report is authorized by law (20 U.S.C. 1221e-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

SCOPE: Please supply data for the 1983-84 academic year for your elementary and secondary teacher preparation programs. Do not include data for special education or administration programs.

SCDE -- Schools, colleges, or departments of education.

Computers in education courses -- Those offered by SCDE solely, by SCDE jointly with a unit outside the SCDE (e.g., Math Dept.), or by another unit but required by SCDE of all education students, and providing instruction during at least 80 percent of class time in computers as objects of learning or in their use as learning or teaching tools.

Undergraduate (or 5-year) program -- Courses leading to initial certification.

Graduate program -- Courses beyond requirement for initial certification.

1. A. Does your college or university require all incoming students to take a computer course (e.g., computer literacy)? Yes |__|; No |__|

B. Enter the number of course credits of computers in education courses (as defined above) that were offered in 1983-84: Total _____; Undergraduate _____; Graduate _____.

If no graduate education program, enter "NA." If a course can be taken for either undergraduate or graduate credit, enter the credits in one category only. If the same course was offered more than once, count its credits only once.

C. Type of credit: Semester |__|; Quarter |__|; Other |__| Specify_____

IF NO COMPUTERS IN EDUCATION COURSES, SKIP TO QUESTION 5

2. On each line below that describes the primary computer content of courses represented in Question 1B, enter the number of credits of such undergraduate course(s) in the "U" column; of graduate course(s), in the "G" column. Enter the credits for each course on one line only. If a course can be taken for either undergraduate or graduate credit, enter the credits in one column only.

Primary content	U	G	Primary content	U	G
A. Intro. to computers/general overview...			E. Computers as tools for teachers or students (e.g., CMI, word processing, graphics, record-keeping).....		
B. Programming (e.g., BASIC, Logo).....					
C. Software and/or hardware.....					
D. Instructional uses (e.g., CAI, integration of computers into subject areas).....			F. Other (specify).....		

3. A. Estimated percent of 1983-84 seniors exposed to at least one of the courses in Question 1B:

Elementary education _____; Secondary education (excluding math, science, computer fields)_____.

B. Number of microcomputers available to education students: In your SCDE _____; In units outside the SCDE, but used for the computers in education courses in Question 1B _____.

4. How many credits of computers in education courses, if any, does your SCDE require for graduation in 1983-84 of each type of student listed below? Include credits for courses offered by another unit but required by the SCDE of all students in a particular program (e.g., secondary math). If your SCDE does not have a program (e.g., no secondary science education program), enter "NA" where appropriate.

Level of student program	Type of student				
	Elementary education	Secondary education (including junior high school)			
		Math	Science	Computer fields	Other secondary
Undergraduate					
Graduate					

5. How many undergraduate curriculum/methods courses, if any, contain a computer education component? On the average, about what percent of class time is devoted to such a component?

A. Elementary education: Number of courses_____; Average percent of class time_____.

B. Secondary education: Number of courses_____; Average percent of class time_____.

6. A. Does your SCDE offer non-credit inservice instruction in computer education (e.g., workshops, conferences)? Yes _____ No_____ (If "no," skip to question 7.)

B. Number of 1983-84 recipients _____; Average number of hours of instruction per recipient_____.

7. Rate the importance to your SCDE of each of the following problems in initiating or expanding a computers in education program. Enter "1" to indicate major; "2," moderate; or "3," minor or no importance.

Problem	Rating	Problem	Rating
A. Inadequate hardware.....	_____	E. Integration into curriculum.....	_____
B. Inadequate software.....	_____	F. Insufficient educational research.	_____
C. Shortage of computer-trained faculty..	_____	G. Insufficient student interest.....	_____
D. Interdepartmental conflicts.....	_____	H. Other (specify)	_____

8. Rate the priority for your SCDE in the next 2 years of each of the following plans for computers in education programs. Enter "1" to indicate high; "2," medium; or "3," low priority.

Plan to initiate/increase	Rating	Plan to initiate/increase	Rating
A. Undergraduate course offerings.....	_____	E. Within-course components.....	_____
B. Undergraduate requirements.....	_____	F. Non-credit inservice program.....	_____
C. Graduate course offerings.....	_____	G. Number/variety of microcomputers..	_____
D. Graduate requirements.....	_____	H. Other (specify)	_____

Person completing form_____ Title_____

Institution_____ State_____ Phone(___)_____

NCES Form No. 2379-19, 5/84

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